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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/734,262 | 12/11/2000 | Mitsuharu Ohki | 112857-224 | 4709 |

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| EXAMINER |
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LAROSE, COLIN M

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| ART UNIT | PAPER NUMBER |
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2623

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/734,262

Applicant(s)

OHKI ET AL.

Examiner

Colin M. LaRose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Arguments and Amendments

1. Applicant's amendments and arguments filed 21 April 2005, have been entered and made of record.

Response to Amendments and Arguments

2. Applicant's arguments with respect to claims 6-8 have been considered in light of the amended claims 6-8. Applicant's arguments and amendments are sufficient to overcome the previous grounds of rejection, however, they are now moot in view of the new grounds of rejection.

Claim Objections

3. The following sections of 37 CFR §1.75(a) and (d)(1) are the basis of the following objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

(d)(1) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

4. Claims 9-11 are objected to under 37 CFR §1.75(a) and (d)(1) as failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention.

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Regarding claims 9-11, there is no antecedent basis for "the pixel." It is unclear to what "the pixel" refers. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,050,227 by Furusawa et al. ("Furusawa").

Regarding claim 6, Furusawa discloses an image processing apparatus (figure 1), comprising:

storage control means (memory 9) for controlling storage of a plurality of pixels inputted thereto (figure 2, S4: designated area of pixels, such as R1 or R2 shown in figure 3, is stored in memory);

detection means (image processor 8) for detecting a boundary line in the proximity of said pixels by comparing differences between pixel values associated with at least two of said pixels (figure 2, S6: a contour and its direction is detected using edge detection filters (e.g. figure 4), which compare the differences between pixels to ascertain the presence of a contour – see column 4, line 64 through column 5, line 55);

position calculation means (image processor 8) for calculating positions of the boundary line with respect to said pixels (i.e. in detecting a contour, Furusawa's detection means also ascertains the positions and orientations of the contour);

weighting means (image processor 8) for weighting the pixel values of said pixels based on the distance between said pixels and the positions of the boundary line calculated by said position calculation means (figure 2, S7: a smoothing/enhancing filter is selected based on the position/orientation of the contour – see figure 6; the S/E filter is also selected based on the distance between a pixel to be filtered and pixels on the outline of the designated area – see column 6, lines 47-55;

figure 2, S8: the S/E filter is applied to the plurality of pixels to generate weighted, or filtered, pixel values;

figure 2, S9: the weighted pixel values are added to the original pixel values to produce corrected pixel values); and

outputting means (image processor 8) for outputting said pixels, wherein the weighted pixel values are associated with said outputted pixels (figure 2, S10: the corrected pixel values, which are associated with their respective weighted pixel values, are output to memory).

Regarding claim 9, Furusawa discloses the weighting means controls weighting of the pixel values of said pixels when there is no boundary line on the left-hand and right-hand sides of the pixel or there is no boundary line on upper and lower sides of the pixel (i.e. Furusawa's weighting means selects the proper filter weights based on whether the boundary line is vertical or horizontal – see figures 6A and 6B).

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Regarding claims 7 and 8, Furusawa discloses an image processing method/program (figures 1-2), comprising:

controlling storage of a plurality of pixels inputted in a storage device (figure 2, S4: designated area of pixels, such as R1 or R2 shown in figure 3, is stored in memory);

detecting a boundary line in the proximity of said pixels by comparing differences between pixel values associated with at least two of said pixels (figure 2, S6: a contour and its direction is detected using edge detection filters (e.g. figure 4), which compare the differences between pixels to ascertain the presence of a contour – see column 4, line 64 through column 5, line 55);

calculating positions of the boundary line with respect to said pixels (i.e. in detecting a contour, Furusawa's detection means also ascertains the positions and orientations of the contour);

weighting the pixel values associated with said pixels based on the distance between said pixels and the positions of the boundary line calculated by said position calculation means (figure 2, S7: a smoothing/enhancing filter is selected based on the position/orientation of the contour – see figure 6; the S/E filter is also selected based on the distance between a pixel to be filtered and pixels on the outline of the designated area – see column 6, lines 47-55;

figure 2, S8: the S/E filter is applied to the plurality of pixels to generate weighted, or filtered, pixel values;

figure 2, S9: the weighted pixel values are added to the original pixel values to produce corrected pixel values);

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wherein weighting the pixel values includes blending at least two of the pixel values of said pixels (i.e. the S/E filter weights the pixels via a 3x3 (or 5x5 or 7x7) kernel filter, which blends (smoothes) pixel values along directions tangential to the contour and sharpens pixel values along directions orthogonal to the contour); and

outputting means (image processor 8) for outputting said pixels, wherein the weighted pixel values are associated with said outputted pixels (figure 2, S10: the corrected pixel values, which are associated with their respective weighted pixel values, are output to memory).

Regarding claims 10 and 11, Furusawa discloses the weighting means controls weighting of the pixel values of said pixels when there is no boundary line on the left-hand and right-hand sides of the pixel or there is no boundary line on upper and lower sides of the pixel (i.e. Furusawa's weighting means selects the proper filter weights based on whether the boundary line is vertical or horizontal – see figures 6A and 6B).

Related Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,271,064 by Dhawan et al.

U.S. Patent 5,561,724 by Kido et al.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (571) 272-7423.


Please note that this application has been reassigned to Colin LaRose. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (571) 272-7414. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CML
Group Art Unit 2623
23 July 2005



VIKKRAM BALI
PRIMARY EXAMINER